

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): A method of inhibiting HCV replication in an HCV infected cell comprising the step of providing to said cell an effective amount of a compound that inhibits NS2/3 autocleavage.

Claim 2 (original): The method of claim 1, wherein said compound is selected from the group consisting of:

an HCV inhibitor polypeptide comprising an NS4A fragment at least about 11 amino acids in length, wherein said fragment can inhibit autocleavage of NS2/3;
a pharmaceutically acceptable salt of said HCV inhibitor polypeptide; and
a prodrug thereof.

Claim 3 (original): The method of claim 1, wherein compound is selected from the group consisting of:

a polypeptide having the structure:



wherein X^1 is either serine, cysteine, or threonine;

X^2 is either valine, leucine, or isoleucine;

X^3 is either valine, leucine, isoleucine, serine, cysteine or threonine;

X^4 is either valine, leucine, or isoleucine;

X^5 is either valine, leucine, or isoleucine;

X^6 is either lysine, arginine, or histidine;

X^7 is either valine, leucine, or isoleucine;

X⁸ is either aspartic acid, glutamic acid, valine, leucine, isoleucine, lysine, arginine, or histidine;

X⁹ is either valine, leucine, or isoleucine;

X¹⁰ is either serine, cysteine, threonine, asparagine, glutamine, aspartic acid, or glutamic acid;

each Y¹ is an independently selected amino acid,

each Y² is an independently selected amino acid,

Z¹ is an optionally present protecting group covalently joined to Y¹,

Z² is an optionally present protecting group covalently joined to Y²,

m is from 0 to 300, and

n is from 0 to 300,

a pharmaceutically acceptable salt of said polypeptide; and

a prodrug thereof.

Claim 4 (original): The method of claim 3, wherein m is from 0 to 25 and n is from 0 to 25.

Claim 5 (original): The method of claim 4, wherein said compound is said polypeptide or a pharmaceutically acceptable salt thereof.

Claim 6 (currently amended): The method of claim 1, wherein said compound is selected from the group consisting of:

KGSVVIVGRIILSGRK (SEQ ID NO: 9) (~~SEQ. ID. NO. 16~~),

Ac-GGSVVIVGRIILSGRK (SEQ ID NO: 11) (~~SEQ. ID. NO. 18~~),

GGSVVIVGRIILSGRG (SEQ ID NO: 12) (~~SEQ. ID. NO. 19~~),

KKGSVVIVGRIILSGRPAIVPRR-NH₂ (SEQ ID NO: 13) (~~SEQ. ID. NO. 20~~), and

KKGSVVIVGRIILSGRPAIVPDRELLYQEFDE (SEQ ID NO: 14) (~~SEQ. ID. NO. 21~~),

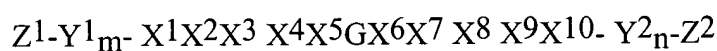
or a pharmaceutically acceptable salt thereof.

Claim 7 (original): A method of inhibiting HCV replication in an HCV infected cell comprising the step of introducing into said cell an effective amount of a nucleic acid

comprising a nucleotide sequence encoding for a polypeptide comprising an NS4A fragment at least about 11 amino acids in length, wherein said fragment inhibits autocleavage of NS2/3.

Claims 8-25 (canceled):

Claim 26 (original): A compound selected from the group consisting of:
a polypeptide having the structure:



wherein X^1 is either serine, cysteine, or threonine;

X^2 is either valine, leucine, or isoleucine;

X^3 is either valine, leucine, isoleucine, serine, cysteine or threonine;

X^4 is either valine, leucine, or isoleucine;

X^5 is either valine, leucine, or isoleucine;

X^6 is either lysine, arginine, or histidine;

X^7 is either valine, leucine, or isoleucine;

X^8 is either aspartic acid, glutamic acid, valine, leucine, isoleucine, lysine, arginine, or histidine;

X^9 is either valine, leucine, or isoleucine;

X^{10} is either serine, cysteine, threonine, asparagine, glutamine, aspartic acid, or glutamic acid;

each Y^1 is an independently selected amino acid,

each Y^2 is an independently selected amino acid,

Z^1 is an optionally present protecting group covalently joined to Y^1 ,

Z^2 is an optionally present protecting group covalently joined to Y^2 ,

m is from 0 to 300, and

n is from 0 to 300;

a pharmaceutically acceptable salt of said polypeptide; and
a prodrug thereof;

provided that if said compound is said polypeptide then at least one of Z¹ or Z² is present.

Claim 27 (original): The compound of claim 26, wherein m is from 0 to 25, and n is from 0 to 25.

Claim 28 (original): The compound of claim 27, wherein said compound is said pharmaceutically acceptable salt.

Claims 29-39 (canceled):

Claim 40 (original): A method for inhibiting HCV polyprotein processing comprising the step of contacting a cell expressing an HCV polypeptide that contains at least NS2/3 with an inhibitory polypeptide that either comprises an NS4A fragment at least about 11 amino acids in length able to inhibit NS2/3 autocleavage or has the structure:



wherein X¹ is either serine, cysteine, or threonine;

X² is either valine, leucine, or isoleucine;

X³ is either valine, leucine, isoleucine, serine, cysteine or threonine;

X⁴ is either valine, leucine, or isoleucine;

X⁵ is either valine, leucine, or isoleucine;

X⁶ is either lysine, arginine, or histidine;

X⁷ is either valine, leucine, or isoleucine;

X⁸ is either aspartic acid, glutamic acid, valine, leucine, isoleucine, lysine, arginine, or histidine;

X⁹ is either valine, leucine, or isoleucine;

X¹⁰ is either serine, cysteine, threonine, asparagine, glutamine, aspartic acid, or glutamic acid;

each Y¹ is an independently selected amino acid,

each Y² is an independently selected amino acid,

Z¹ is an optionally present protecting group covalently joined to Y¹,

Z² is an optionally present protecting group covalently joined to Y²,

m is from 0 to 300, and

n is from 0 to 300,

a pharmaceutically acceptable salt of said inhibitory polypeptide; and
a prodrug thereof.

Claim 41 (currently amended): The method of claim 40, wherein said polypeptide is selected from the group consisting of:

KGSVVIVGRIILSGRK (SEQ ID NO: 9) (~~SEQ. ID. NO. 16~~),

Ac-GGSVVIVGRIILSGRK (SEQ ID NO: 11) (~~SEQ. ID. NO. 18~~),

GGSVVIVGRIILSGRG (SEQ ID NO: 12) (~~SEQ. ID. NO. 19~~),

KKGSVVIVGRIILSGRPAIVPRR-NH₂ (SEQ ID NO: 13) (~~SEQ. ID. NO. 20~~), and

KKGSVVIVGRIILSGRPAIVPDRELLYQEFDE (SEQ ID NO: 14) (~~SEQ. ID. NO. 21~~),

or a pharmaceutically acceptable salt thereof.

Claim 42 (original): A method of screening for a compound that inhibits HCV replication or HCV polyprotein processing comprising the steps of:

a) selecting for a compound that binds to the NS4A target site using a polypeptide comprising NS2/3 or a binding portion thereof, and

b) measuring the ability of said compound to inhibit HCV replication or HCV polyprotein processing.

Claim 43 (original): The method of claim 42, wherein said method measures the ability of said compound to inhibit HCV polyprotein processing.

Claim 44 (original): The method of claim 42, wherein said step (b) is performed in the presence of a non-saturating amount of a NS4A agonist.

Claim 45 (canceled).